

MULTIMEDIA



UNIVERSITY®

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# MULTIMEDIA UNIVERSITY

## FINAL EXAMINATION

TRIMESTER 2, 2016/2017

**MVR1023 – SIMULATION MODELLING**  
(All sections / Groups)

24 FEBRUARY 2017  
3.00 PM – 5.00 PM  
( 2 Hours )

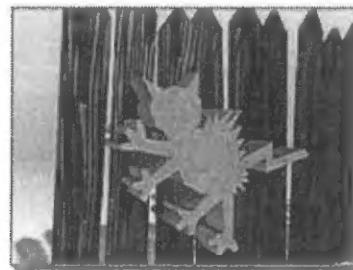
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### INSTRUCTIONS TO THE STUDENTS

1. This Question paper consists of 5 pages including cover page with 10 questions in Section A and 4 questions in Section B. Total marks is 40.
2. Answer **ALL 10 questions in Section A**. Each question carries 1 mark.
3. Answer **ONLY 3 out of 4 questions in Section B** and the distribution of the marks is as stated.
4. Please write all your answers in the answer booklet provided

**SECTION A | Answer ALL****Total marks is 10**

1. What is a reduction in a scale drawing?
  - A. A scale drawing that is larger than the actual object
  - B. A 3d model dimension
  - C. A scale drawing that is smaller than the actual object
  - D. Detail data that can be used as reference of a project
2. How do you interpret the scale of 1cm:1m?
  - A. 1mm on the drawing is equal to 1 m on the actual object
  - B. 1cm on the drawing is equal to 1m on the actual object
  - C. 1 cm on the actual object is equal to 3m on the drawing
  - D. 1 meter on the drawing is equal to 1cm on the actual object
3. Which one is wrong about the parent-child relationship in 3d max?
  - A. When you move the parent, the child will follow
  - B. Use SELECT and LINK and UNLINK selections on the toolbar to make and remove links between objects.
  - C. The child can move individually without affecting the parent
  - D. Both objects can behave individually without affecting each other

**Figure 1**

4. Figure 1 shows one of the Boolean operations for geometry. Which one of the following explains the operation process of Boolean?
  - A. Union
  - B. Subtraction
  - C. Intersection
  - D. Combination

**Continued...**

5. Texture resolution is usually multiple of \_\_.
  - A. 32
  - B. 6
  - C. 18
  - D. 2
  
6. These files formats are commonly used for texturing games assets EXCEPT?
  - A. TGA
  - B. BPM
  - C. AI
  - D. PNG
  
7. What are UV's?
  - A. A texture that will be assigned to the 3d object in 3d software
  - B. Coordinates to place the texture in 3D space by taking each point of the model (vertex) and assigning it to a point on the map.
  - C. Various types of projections to map the texture in the 3d object
  - D. A 3d space in 3d model to map the texture
  
8. Which of these statements describe Adaptive LOD?
  - A. It is a pre-computation of the virtual world and renders only viewable objects within the camera's distance and direction
  - B. It splits the vertices in average of the total triangles based on the location of the virtual camera
  - C. It involves a pre-computation phase which considers the surface lighting information to split the vertices
  - D. It adapts the texture resolution based on the distance of the virtual camera
  
9. "Actions rarely come to a sudden and complete stop, but are generally carried past their termination point".

Which of the principles of animation below describe the above statement?

- A. Appeal
- B. Staging
- C. Exaggeration
- D. Follow through and overlapping action

Continued..

10. In Unity 3d, which is responsible for referencing the content that will be included in the build process?

- Scene
- Project
- Hierarchy
- Inspector

## **SECTION B**

**Answer only THREE (3) questions out of four. Each question carries TEN (10) marks.**

### **Question 1**

In gaming or real-time simulation application, polygon count is very important to ensure the quality of the application. Discuss and give example any 3 methods cleaning up geometry's in game modeling

- Why low poly is important in game development? Discuss three reasons and give an example. [6 marks]
- List down any four methods cleaning up geometry-in game modelling. [4 marks]

### **Question 2**

- What is the difference between displacement map and bump map? Which one is the best solution for 3d game asset creation? [4 marks]
- Explain step by step the process to create the bump map effect on the face of wooden box in 3d Max. You can sketch the answer to support your explanation. [6 marks]

### **Question 3**

- What is negative space and briefly explain the function of negative space. [4 marks]
- What are the questions you can ask yourself as a game artist when you want to create a game assets, for example a house, to enhance the visual presentation and give characteristic of the assets? Support each answer with at least one example. [6 marks]

**Continued..**

**Question 4**

- a. Describe at least two differences between a 3<sup>rd</sup> person adventure game character and platform game character [4 marks]
- b. Picture a little girl in a game character with short curly hair, and having a ball at her hand. She is about to throw the ball to a friend. Briefly describe and sketch the situation with the principle of animation of “anticipation” for his character to throw the ball animation. [6 marks]

**End of Paper**